

**What is claimed is:**

1. A power supply comprising:
  - a DC-to-DC converter including an output for supplying a voltage to a load, a means for deriving a signal representative of the voltage supplied at the output, and a control circuit for controlling the voltage at the output in dependence upon the derived signal;
  - means for connecting the output to the load;
  - means for deriving a digital representation of the voltage at the load;
  - a processor for deriving a digital correction signal from the digital representation;
  - means for converting the digital correction signal to an analog correction signal;
  - and
  - means for combining the analog correction signal with the derived signal.
2. The power supply according to claim 1, wherein the means for deriving a digital representation and the means for converting the digital correction signal each have a resolution of at least  $2^{12}$  steps.
3. The power supply according to claim 1, wherein the means for connecting and the means for combining comprise resistive elements.
4. The power supply according to claim 3, wherein tolerances of the resistive elements and resolution of the means for deriving a digital representation and the means for converting the digital correction signal are selected such that the voltage supplied to the load has a tolerance equal to or better than approximately  $\pm 2\%$ .
5. A power supply comprising:
  - a DC-to-DC converter operable to supply a voltage signal to a load;
  - an analog to digital converter operable to convert the voltage signal at the load into a digital signal;
  - a processor adapted to derive a digital correction signal from the digital signal;
  - a digital to analog converter operable to convert the digital correction signal into an analog correction signal; and

voltage regulation circuitry that, responsive to the analog correction signal, controls the voltage signal.

6. A method for controlling an output voltage provided by a power supply to a  
5 load, the method comprising:

converting a voltage signal supplied by the power supply to the load into a digital signal;

deriving a digital correction signal from the digital signal;

converting the digital correction signal into an analog correction signal; and

10 responsive to the analog correction signal, regulating the voltage signal via a feedback control circuit.